

**Amendments to the Claims**

Please cancel Claims 47, 52, 54, 57, 60, 62, 67, 69-71, 135, 138 and 146. Please add new Claims 157-159. The Claim Listing below will replace all prior versions of the claims in the application:

**Claim Listing**

1-45. (Canceled)

46. (Original) An isolated nucleic acid comprising the nucleotide sequence SEQ ID NO:5.

47-54. (Canceled)

55. (Previously presented) An isolated nucleic acid encoding a fusion polypeptide having iron transport activity, said nucleic acid molecule comprising a nucleotide sequence encoding amino acid sequence SEQ ID NO:6, and further comprising a nucleotide sequence encoding a heterologous portion of said fusion polypeptide.

56. (Previously presented) An isolated nucleic acid comprising a nucleotide sequence which encodes a protein comprising the amino acid sequence SEQ ID NO:6.

57. (Canceled)

58. (Previously presented) A nucleic acid vector comprising nucleic acid encoding a fusion polypeptide having iron transport activity, said nucleic acid comprising a nucleotide sequence encoding an amino acid sequence SEQ ID NO:6, and further comprising a nucleotide sequence encoding a heterologous portion of said fusion polypeptide.

59. (Previously presented) A nucleic acid vector comprising nucleic acid comprising a nucleotide sequence which encodes a protein comprising the amino acid sequence SEQ ID NO:6.

60-64. (Canceled)

65. (Previously presented) A cultured cell comprising the vector of Claim 59.

66-71. (Canceled)

72. (Original) An isolated nucleic acid comprising the nucleotide sequence SEQ ID NO:7.

73-139. (Canceled)

140. (Previously presented) An isolated nucleic acid comprising a nucleotide sequence that encodes a protein having amino acid sequence SEQ ID NO:6.

141-142. (Canceled)

143. (Previously presented) An isolated nucleic acid comprising the complement of nucleotide sequence SEQ ID NO:5.

144. (Canceled)

145. (Previously presented) An isolated nucleic acid comprising the complement of nucleotide sequence SEQ ID NO:7.

146-147. (Canceled)

148. (Previously presented) A method for detecting a variant allele of a human *ferroportin1* gene, comprising obtaining *ferroportin1* DNA from a test sample, and determining whether the DNA differs in DNA sequence from SEQ ID NO:7, wherein, if the DNA differs in sequence from SEQ ID NO:7, the DNA comprises a variant allele of a human *ferroportin1* gene.

149. (Previously presented) The method of Claim 148 wherein the DNA from the test sample is amplified prior to determining its DNA sequence.
- 150-156. (Canceled)
157. (New) A method for detecting a variant allele of a human *ferroportin1* gene, comprising obtaining purified *ferroportin1* DNA from a test sample, and determining whether the DNA differs in DNA sequence from a contiguous portion of SEQ ID NO:7, wherein, if the DNA differs in sequence from the contiguous portion of SEQ ID NO:7, the DNA comprises a variant allele of a human *ferroportin1* gene.
158. (New) The method of Claim 157 wherein the purified DNA from the test sample is amplified prior to determining whether the purified DNA differs in sequence from the sequence of a contiguous portion of SEQ ID NO:7.
159. (New) A method for detecting a variant allele of a human *ferroportin1* gene, comprising obtaining purified human *ferroportin1* DNA from a test sample, amplifying a portion of the DNA to obtain amplification products, and analyzing the amplification products to determine whether the amplification products differ in DNA sequence from a contiguous portion of SEQ ID NO:7, wherein, if the amplification products differ in DNA sequence from the contiguous portion of SEQ ID NO:7, the DNA comprises a variant allele of the human *ferroportin1* gene.